

Official

Page 5 of 12

REMARKS

The Office action of June 26, 2009, has been carefully considered and reconsideration of the amended application is earnestly solicited.

The amendments in claims 7 and 8 are intended to remove any ambiguities as to what the replaced word "improvement" may have been referring to. The amendment in claim 1 is merely stylistic. The amended claim 12 has been freed of the inconsistency that was kindly pointed out by the Examiner, thereby removing the objection to claims 12-14 based on 35 USC 112.

As to the objections relating to the previously submitted Terminal Disclaimer the following replies correspond to the listed Points "A" through "E":

Points A and B: In view of the exorbitant expense of \$400 necessitated by the removed Final Rejection, it seems reasonable to defer any further fee payments until allowance of any double patenting claims.

Point C: A corrected terminal disclaimer with names printed under the signatures is appended following the "Remarks.

Points D and E: Since the terminal disclaimer is signed by both co-inventors who own the full rights to both the issued patent and the current application, there seems to be no need for any assignment.

We must now take issue with the

**Claim Rejections – 35 USC 103:**

Examiner's §14, Page 4, 1<sup>st</sup> Sentence reading "**Bentley discloses in a wet electrostatic precipitation-based apparatus for detecting the presence of an airborne chemical or biological analyte...**" is negated by Bentley's disclosure of two distinct embodiments based on the use of "baffled separators," the first of which is represented by its Fig. 1 and addressed to the monitoring of air contaminants, as in our claims, whereas the second embodiment represented by Fig. 3 is directed at "cleaning a gas" [see Abstract, penultimate sentence, or Column 1, Lines 66-68]. Since our basic Claims 1 and 5 are restricted to "detecting the presence of an airborne chemical or biological analyte," the gas cleaning embodiment of Bentley's Fig. 3 does not apply to them. Neither does the electrostatic precipitator of Fig. 3, which is part of a final gas clean-up [Column 3, Lines 33-35] and is not included in Figs. 1 and 2 or in the discussion relating thereto. Since that discussion pertains exclusively to baffled separators and does not even mention electrostatic precipitation, it can not have any bearing on our claims.

Moreover, Bentley's electrostatic precipitator is not relevant because it does not meet the following specifications of our amended basic claims 1 and 5:

Official

Page 6 of 12

- a. “Wet electrostatic precipitation” requires “substantially full wetting of the inner surface” of the collector tube by a liquid film [see amended claim 2], which can not be achieved by a few residual mist droplets;
- b. Not only does it not provide the required “means for introducing an analyte-free collection liquid”, but its intake from the contaminated “fourth reservoir and separation zones 54” prevents that liquid from being analyte-free;
- c. As an appendage to the last stage of Fig. 3, it does not form part of any “gas- and liquid-containing means” as specified in our amended claims 1 and 5; and
- d. It forms part of a scrubbing or clean-up system, but not of any detection system that our claims are restricted to, and especially not for ultra-sensitive detection of hazardous airborne constituents that may be lethal even in extremely low concentrations.

These distinctions are brought out further by our previous insertion of the wordings “wet electrostatic precipitation-based”, in Line 1 of claims 1 and 5, “said collector tube and discharge electrode forming part of said chamber,” in the 4<sup>th</sup> and 3<sup>rd</sup> lines from the end of claim 1, and “sampling means forming part of said containing means” in Lines 5 and 6 of claim 5.

To further demonstrate the inapplicability of the electrostatic precipitator of Bentley's Fig. 3 to our basic claims 1 and 5, we cite verbatim the following excerpts from the cited patent:

Column 3, Lines 17-19:

**“FIG. 3 is a diagram which depicts a system in which a dirty gas is scrubbed, or cleaned, and the scrubbing liquid is recovered and reused”.** Ergo, Fig. 3 does not pertain to the collection and detection of hazardous particles but rather to cleaning up a dirty gas.

Column 3, Lines 30-35:

**“The gas then passes into a fourth reservoir and separation zones 54 which are similar to the second reservoir and separation zones 52. The gas then passes into an electrostatic precipitator where droplets of mist still remaining in the gas stream are substantially removed”.** Ergo, what enters Bentley's precipitator is gas and mist from the 4<sup>th</sup> reservoir and zone 54.

Column 3, Lines 46-48:

**“This liquid, which is partially contaminated by material removed from the gas in the fourth reservoir and separation zones 54,”** clearly does not meet the requirement of our basic claims 1 and 5, Line 4, for **“introducing an analyte-free collection liquid into said containing means”**.

Since the mist reaching the electrostatic precipitator of Fig. 3 is bound to be “partially contaminated.....from the gas in the fourth reservoir and separation zones 54” [Column 3, Lines 46-48] through which it must first pass, it could not meet the requirement of basic claims 1 and 5 and their subsidiary claims 2, 3, 6, and 7 for **“introducing an analyte-free collection liquid into said containing means”**.